UNITED STATES PATENT AND TRADEMARK OFFICE

APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/630,315	07/31/2000	Naoto Kinjo	058744	5533

7590 08/16/2004	**EXAMINER**
Sughrue Mion Zinn MacPeak & Seas	DASTOURI, MEHRDAD
2100 Pennsylvania Avenue NW	
Washington, DC 20037	

ART UNIT	PAPER NUMBER
2623	

DATE MAILED: 08/16/2004

Please find below and/or attached an Office communication concerning this application or proceeding.

PTO-90C (Rev. 10/03)

		Application No.	Applicant(s)
Advisory Action		09/630,315	KINJO, NAOTO
		Examiner	**Art Unit**
		Mehrdad Dastouri	2623

--The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

THE REPLY FILED 22 June 2004 FAILS TO PLACE THIS APPLICATION IN CONDITION FOR ALLOWANCE. Therefore, further action by the applicant is required to avoid abandonment of this application. A proper reply to a final rejection under 37 CFR 1.113 may <u>only</u> be either: (1) a timely filed amendment which places the application in condition for allowance; (2) a timely filed Notice of Appeal (with appeal fee); or (3) a timely filed Request for Continued Examination (RCE) in compliance with 37 CFR 1.114.

<u>PERIOD FOR REPLY</u> [check either a) or b)]

a) ☒ The period for reply expires <u>3</u> months from the mailing date of the final rejection.

b) ☐ The period for reply expires on: (1) the mailing date of this Advisory Action, or (2) the date set forth in the final rejection, whichever is later. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the mailing date of the final rejection.
ONLY CHECK THIS BOX WHEN THE FIRST REPLY WAS FILED WITHIN TWO MONTHS OF THE FINAL REJECTION. See MPEP 706.07(f).

Extensions of time may be obtained under 37 CFR 1.136(a). The date on which the petition under 37 CFR 1.136(a) and the appropriate extension fee have been filed is the date for purposes of determining the period of extension and the corresponding amount of the fee. The appropriate extension fee under 37 CFR 1.17(a) is calculated from: (1) the expiration date of the shortened statutory period for reply originally set in the final Office action; or (2) as set forth in (b) above, if checked. Any reply received by the Office later than three months after the mailing date of the final rejection, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

1.☐ A Notice of Appeal was filed on _____. Appellant's Brief must be filed within the period set forth in 37 CFR 1.192(a), or any extension thereof (37 CFR 1.191(d)), to avoid dismissal of the appeal.

2.☐ The proposed amendment(s) will not be entered because:

   (a)☐ they raise new issues that would require further consideration and/or search (see NOTE below);

   (b)☐ they raise the issue of new matter (see Note below);

   (c)☐ they are not deemed to place the application in better form for appeal by materially reducing or simplifying the issues for appeal; and/or

   (d)☐ they present additional claims without canceling a corresponding number of finally rejected claims.

   NOTE: _____.

3.☐ Applicant's reply has overcome the following rejection(s): _____.

4.☐ Newly proposed or amended claim(s) _____ would be allowable if submitted in a separate, timely filed amendment canceling the non-allowable claim(s).

5.☒ The a)☐ affidavit, b)☐ exhibit, or c)☒ request for reconsideration has been considered but does NOT place the application in condition for allowance because: *See Attached..*

6.☐ The affidavit or exhibit will NOT be considered because it is not directed SOLELY to issues which were newly raised by the Examiner in the final rejection.

7.☒ For purposes of Appeal, the proposed amendment(s) a)☐ will not be entered or b)☐ will be entered and an explanation of how the new or amended claims would be rejected is provided below or appended.

   The status of the claim(s) is (or will be) as follows:

   Claim(s) allowed: _____.

   Claim(s) objected to: _____.

   Claim(s) rejected: *1-40*.

   Claim(s) withdrawn from consideration: _____.

8.☐ The drawing correction filed on _____ is a)☐ approved or b)☐ disapproved by the Examiner.

9.☐ Note the attached Information Disclosure Statement(s)(PTO-1449) Paper No(s). _____.

10.☐ Other: _____

DETAILED ACTION

1.   Applicants' arguments regarding Claims 1-40 have been fully considered but they are not persuasive.

2.   Regarding Claim 1, Applicants argue in essence that the extraction of a silhouette is a form of gradation comparison and not shape extraction. The Examiner disagrees and indicates that the process of generating a silhouette is clearly a shape extraction algorithm whereby the shape of the person head has been extracted by identifying the object boundaries in the image.   As shown in Figure Consequently, extraction of **a shape** of a specified object occurs prior to skin detection and subsequent stages.

Concerning Claims 27, in addition to the color-based segmentation suggested by the incorporated reference (Cha), various histogram analysis discussed in Section 2.2, will also detect a color of the specified image subject (blond/white hair).

Arguments analogous to those presented for Claims 1 and 27 are applicable to Claims 8 and 40.

Concerning Claim 15, as it is stated in previous Office Action, it is a fundamental mathematical theorem that since the location of the tip of the nose and center of the mouth is dependent of the location of the eyes (which has been obtained based on the voting), the location of other areas (nose and mouth) are also based on, and are a function of that voting. This is not speculative, and on the contrary is a logical mathematical relationship. Since C_n (Cost Function shown in Formula (10)) is a voting

function, $(C_n + d)$ or in general $(C_n + \text{any function})$ are also voting functions that depend on votes in an N-dimensional space (as discussed in previous Office Action).

Regarding Applicants' arguments concerning Claim 16, as it was indicated in the previous Office Action, aggregation of votes has been clearly taught in Formula (10) wherein C_n is the combination of the weighted individual votes. Considering the above-mentioned response to Claim 15 arguments, the location of mouth, eyes and nose depend on voting function. Consequently, predetermined values ($t_1 \times d$ and $t_2 \times d$) are also based upon aggregation value in a voting space. Claim 16 that depend on Claim 15, recite "the voting space" without any prior recitation of "a voting space" implying a lack of antecedent basis. The parent Claim 15 recites, "performing a vote in an N-dimensional space". The Examiner in the paragraph bridging pages 3-4 of the previous Office Action had analyzed different alternatives consisting of an assumption of "voting in an N-dimensional image characteristics space" and "an N-dimensional voting space".

Regarding Applicants' arguments concerning Claims 19, 20 and 38, the Examiner refers the Applicants to the response in the previous Office Action. Regarding Claim 38, it is emphasized that "connected component labeling" is the basic algorithm utilized in Nguyen's disclosure, which is consequently based on analyzing a plurality of neighboring pixels (an aggregation of points). Furthermore, regarding the Official Notice taken for Claim 20 in the previous Office Action, Applicants are referred to the academic books teaching fundamentals of statistics.

With regards to Claims 2 and 9, Ohmi et al disclose a face recognition method and corresponding apparatus wherein the extracting algorithms for extraction of face

parts are performed in parallel as depicted in Figure 2. Additionally, this prior art

disclose that the parallel processing is performed after precedent stages of

implementing noise removal algorithm and edge detection algorithm. Considering the

teachings of Saber et al and Ohmi et al, Claims 2-7 and 9-14 are not patentable over

the cited prior arts.

Furthermore, Regarding Applicants' argument concerning Claim 2, it is submitted

that Nguyen disclose parallel processing of skin region segmentation and feature

detection. Saber's teachings are cited as an emphasis to the Nguyen's teachings.

Nguyen discloses the limitation, "extracting algorithms in a subsequent stage are

performed according to the extracting states in a precedent stage". There is no

requirement that secondary prior art of record teaches the same limitation. The

teachings of Nguyen and Saber, in the same field of endeavor of face recognition

utilizing facial feature detection are reasonably combinable. Saber's invention is also

based on evaluating the maximum likelihood of the location of eyes, nose and mouth.

Regarding Claim 32, in parallel processing, process of the plurality of stages are

inherently performed simultaneously.

Regarding Claim 34, Nguyen discloses extracting body and non-background

area (Figure2, first row). Extraction of eyebrows is not explicitly recited in the claim

(Using "/" in reciting eye/nose/mouth/eyebrow has been interpreted as an alternate "or"

language.).

Mehrdad Dastouri
Primary Examiner
Group Art Unit 2623
August 11, 2004

MEHRDAD DASTOURI
PRIMARY EXAMINER